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Interpretation at the Western Museum of Mining and Industry

The Western Museum of Mining and Industry's celebrity burros, Polly and Molly, function as living reminders to museum visitors of the historic character of frontier mining.

Founded in 1970, the Western Museum of Mining and Industry interprets the history of, and current developments in, mining in the western United States. The museum is located opposite the north entrance to the U.S. Air Force Academy on Interstate 25, an hour south of Denver and twenty minutes north of Colorado Springs.

The museum contains over 15,000 feet of exhibit space in its main building and numerous other exhibits on a 27-acre site. Structures on the property include a ten-stamp mill, two hoist houses, a blacksmith shop, two historic barns, and headframes from the Orpha May and Elkton mines in the Cripple Creek District. Large-scale artifacts on the museum grounds include a steam shovel, two tram engines, a steam stamp, a walking beam engine, and a replica of an arastra.

Staff members take pride in the fact that most of the machinery at the Western Museum of Mining and Industry remains in operating condition. Everything from a 35-ton, reciprocating, double-expansion Corliss steam engine, to a pump, generators, a tram engine, and a pneumatic drill are operated daily on the museum's guided tours. The steam shovel and stamp mill are operated on special occasions. Nothing quite so capably demonstrates the thunderous roar made by a pneumatic drill as the thunderous roar made by a pneumatic drill.

Given the significant expense of transporting heavy machinery, the original provenance for most of the museum's artifacts is the state of Colorado; however, the museum collection has historic material acquired from throughout the country. For instance, the museum's Corliss engine provided power for a paper mill in West Groton, Massachusetts, before being donated to the museum. The museum also displays a 50-kilowatt generator which served a mine and smelter site at Tooele, Utah, and and an 80-ton Nordberg steam stamp from the Osceola Mill on Michigan's Keweenaw Peninsula. A small bar salvaged from a saloon in Hachita, New Mexico, permits the museum to interpret leisure activities within a mining community.

The museum's collection presently includes over 3,400 artifacts ranging from the previously described giant engines down to the personal equipment and effects of miners and their families. The museum also has a significant research library of around 12,000 volumes, the strength of which is its numerous contemporary equipment catalogs and original treatises on mining and milling. We even have two burros, a fixture of the mining frontier, who grace the pasture at the front of the property. Polly and Molly were donated to the museum in 1979 and have become local celebrities during their tenure. Indeed, they are an important point of contact between the museum and the surrounding community.

To help reconcile the objectives of curators (preservation) and educators (display and demonstration), the museum has three distinct artifact collections. The *permanent collection* contains the museum's best and most complete artifacts and is used solely for exhibition and research. The *education collection* contains duplicates of material in the permanent collection as well as modern reproductions. Artifacts in the education collection can be used for demonstrations or hands-on displays, accepting the risks of deterioration and damage inherent in these activities. The *parts collection* contains the various parts used to keep the museum's many machines in running order.

Perhaps the museum's best example of balancing preservation and education-through-demonstration occurs at our ten-stamp mill. While the mill itself is a modern replica built from a 19th-century design, the artifacts contained therein are originals salvaged from the abandoned Yellowjacket Mill at Montezuma in Summit County, Colorado. Our "Yellowjacket II" provides the museum staff with the unusual opportunity to demonstrate stamp milling in classes and to the visiting public, but also the responsibility to preserve these now rare industrial artifacts. We compromise by never operating one of the five-stamp

mortar boxes and only running the other one a few times a year.

The staff uses the museum's artifacts to tell the story of mining in the West with narrative text, audio tape tours, and most importantly, through guided tours. The museum hosts around 40,000 visitors annually and about a quarter of these are students. School groups range from pre-school to college classes, but as Colorado history is generally taught in the fourth grade, that age predominates. Guided tours consist of three elements, which can be adjusted to meet the interests of a particular group. On the first part of the guided tour, we discuss and operate the four large steam engines which are located in the museum's lobby. These include the Corliss engine, two generators, and a displacement pump. Two of these impressive machines operated at mine sites and the other two represent types which did. During this part of the tour, the guide explains to the visitors how these engines worked, the purposes for which they were used, and details some of the social history linked to these machines.

Following the engine demonstrations, guests are directed to the museum's theater for a video entitled *Mining in the West*. This program covers the bonanza period of mining in the American West (1849-1904). Like the museum generally, the video focuses less on the mining magnates and more on the prospectors, miners, and other residents of the mining districts.

The final aspect of the guided tour consists of an escorted walk through our placer mining, lode mining, assaying and milling exhibits. Museum guides illustrate the work of the miners through demonstrations of panning and hand-steel drilling, and by operating a tram engine, a vintage air compressor, a hoisting engine, and a pneumatic drill.

The Western Museum of Mining and Industry offers regular hands-on classes in stamp milling, fire assaying, and blacksmithing. Shown here are participants experiencing loading ore into the museum's operating stamp mill.

The lode-mining portion of the tour concludes in a drift reconstruction, where the guides run the drill, describe the processes of mucking, drilling and blasting, and conclude by lighting pieces of fuse. The guided tour ends with a demonstration of the stamp milling process through use of an operating model.

During this part of the tour, the guides have another chance to discuss frontier social and labor history and mining health and safety issues, and to impress upon visitors the industrial nature of frontier mining. While many people come to the museum with romantic notions about the bonanza West, we demonstrate that from very early on western mining was a heavy-industrial enterprise. Our mine office display, which highlights geologists, surveyors, engineers and accountants—the middle echelon responsible for melding the magnates' capital and the miners' labor into a profitable lode mine—best illustrates this idea.

Another point about which most people are astonishingly ignorant is the degree to which they are dependent upon mined products. Any argument in favor of banning mining is, of course, specious, because absolutely everything which humans produce, use, and consume is derived either directly or indirectly from mining. The question thus becomes not whether to mine, but where and when and how to mine. The museum communicates this important idea through both its long-term and temporary exhibits.

The museum uses several approaches for interpreting mining history off museum grounds. Our outreach programs include a prospector's trunk; and the museum staff has recently developed an outreach kit, which we are taking to area schools. Through these kits, children unable to come to the museum for a tour can still have an entertaining and educational time learning about the history and present significance of mining. The museum also reaches older audiences off-site with slide lectures, which we present to service clubs and civic groups.

Through these diverse approaches, the Western Museum of Mining and Industry interprets the history of the mining West and reminds Colorado residents and visitors alike of the importance of mining to the western states, the nation, and the world today.

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